

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-6 are pending in this application, Claim 1 is amended by the present amendment. Support for amended Claim 1 can be found in the original specification, claims and drawings.¹ Thus, no new matter is presented.

In the outstanding Official Action, Claims 1-4 were rejected under 35 U.S.C. § 103(a) as unpatentable over Onda (U.S. Patent No. 6,304,242, hereinafter "Onda") in view of Aoki (U.S. Patent No. 6,307,532, hereinafter "Aoki") in further view of Kemp (U.S. Patent No. 4,469,164, hereinafter "Kemp"); Claim 5 was rejected under 35 U.S.C. § 103(a) as unpatentable over Onda in view of Aoki in view of Kemp and in further view of Karube et al. (U.S. Patent No. 6,072,456, hereinafter "Karube"); and Claim 6 was rejected under 35 U.S.C. § 103(a) as unpatentable over Onda in view of Aoki in further view of Kemp and in further view of Hanari (U.S. Patent No. 6,633,284, hereinafter "Hanari").

Briefly recapitulating, in the driving method of a flat-panel display device recited in Claim 1, the counter electrode potential is inverted during the horizontal (or vertical) blanking period subsequent to a horizontal (or vertical) display period, potentials of each signal line are fixed to a predetermined potential. All the signal lines are fixed to the predetermined potential by simultaneously turning on the analog switch to supply the same signal from the display signal bus to all the signals during the horizontal or vertical blanking period. With this structure, variations in the potential of each signal line due to the capacitive coupling between the counter electrode and the signal line can be suppressed when the counter electrode potential is inverted, thereby reducing the consumption in power.²

¹ Specification at Figure 3.

² Specification at page 6, lines 22-27.

To fix the potentials of the signal lines, the same signal is supplied to all the signal lines during the blanking period through analog switches that supply the same signal from the display signal bus to the signal lines during the horizontal or vertical blanking period. That is, no additional analog switches are required for fixing the potentials of the signal lines.

Onda discloses an image displaying device in which counter electrode potential Vcom is inverted during a horizontal or vertical blanking period. However, Onda fails to teach or suggest that all the signal lines are fixed to a predetermined potential during the blanking period, as recognized in the outstanding Official Action.³

Aoki teaches a polarity inversion driving method in which pre-charging of the data signal lines is performed collectively during the blanking period. However, Aoki uses precharging (analog) switches (172) in addition to sampling (analog) switches (106). The pre-charging switches (172) are provided at the opposite ends of the signal lines to the sampling switches (106) and controlled by a pre-charged signal PC. The pre-charged signal PC is transmitted to the pre-charging switches (172) via pre-charging signal supplying (173). This pre-charging signal supplying line (173) creates a signal delay different from the wiring for the sampling switches (106) due to an independent parasitic capacitance and wiring resistance thereof. Thus, the control of the pre-charging switches (172) is performed in consideration of the signal delay.

In contrast, such consideration is not required in the claimed invention, since the analog switches are commonly used for varying and fixing potentials of the signal lines. Specifically, amended Claim 1 recites that all the signal lines are fixed to a predetermined potential by simultaneously turning on analog switches to supply the same signal from the display signal bus to all the signal lines during the horizontal and vertical blanking period.

³ Official Action at page 4, lines 1-4.

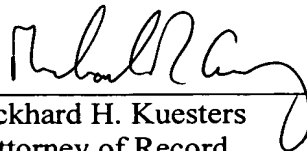
Kemp describes a circuit method for digital to analog signal conversion which uses a single switch (19) for both precharging and application of the final analog output signal. Thus, Kemp is not directed to the suppression of variation potential of each signal line. More specifically, Kemp fails to teach or suggest analog switches are connected between a display signal bus and signal lines and simultaneously turn on to fix the signal lines to a predetermined potential, as recited in amended Claim 1.

Accordingly, in view of the above-mentioned distinctions, it is respectfully submitted that Onda, Aoki and/or Kemp, taken singly or in combination, fail to teach or suggest the claimed invention. As Claims 2-6 depend from amended Claim 1 it is respectfully submitted that these claims also patentably define over Onda, Aoki and/or Kemp.

Consequently, in view of the present amendment and in light of the foregoing comments, it is respectfully submitted that the invention defined by Claims 1-6 is patentably distinguishing over the prior art. The present application is therefore believed to be in condition for formal allowance and an early and favorable reconsideration of the application is therefore requested.

Respectfully submitted,

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